

A. Radioactive Air Emissions License

Any radioactive air emissions license issued by the State of Washington Department of Health must be incorporated as an applicable portion of the air operating permit as required under RCW 70.94.161(10)(d) and WAC 246-247-040. The Department of Health has issued a Radioactive Air Emissions License to US Army Fort Lewis, and that license has been included in the air operating permit. The Radioactive Air Emissions License is written in the Department of Health format, following Department of Health interpretations of Department of Health requirements, and may not follow the format or conventions used by the Puget Sound Clean Air Agency in the main body of the air operating permit.

The License issued by the Department of Health to the US Army Fort Lewis covers radionuclide air emissions from stack L2260 originating in the Nuclear Pharmacy at the Madigan Army Medical Center because, according to Department of Health, the radioactive air emissions sources at these facilities are under the control of the US Army Fort Lewis.

RADIOACTIVE AIR EMISSIONS LICENSE

For

Madigan Army Hospital

Issued by

The State of Washington Department of Health
Division of Radiation Protection
Air Emissions and Defense Waste Section

License Number:

FF-002

Pursuant to the Nuclear Energy and Radiation Control Act, RCW 70.98 the State Clean Air Act, RCW 70.94 and the Radioactive Air Emissions Regulations, Chapters 246-247 WAC, and in reliance on statements and representatives heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to vent Iodine 131 through stack L2260 designated below. The State of Washington Department of Health promulgates this license subject to all applicable rules and regulations. This License does not relieve the Licensee of compliance with the NRC License or other State or Federal agencies jurisdiction pertaining to hazardous air pollutants.

Licensee

Department of the Army
Madigan Army Hospital
Headquarters, Madigan Army Medical Center
Tacoma, Washington 98431-5000

Issue Date:

Effective Date:

Expiration Date:

DATED at Olympia, Washington the xx day of xmonth, 2001

Approved By:

Head, Air Emissions and Defense Waste Section

Table of Contents

1	EMISSION STANDARDS	3
2	APPLICABLE REQUIREMENT TERMS	3
3	<u>Monitoring, Testing, Quality Assurance</u>	<u>5</u>
4	<u>Inspections, Record Keeping and Reporting.....</u>	<u>5</u>
5	<u>Emission Unit Specific license conditions</u>	<u>6</u>

1 EMISSION STANDARDS

The emission of radionuclides to the ambient air from the Madigan Army Hospital shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem per year. [WAC 246-247-040(1), 4/4/1994]

It is allowed that a 3 mrem per year effective dose equivalent to the maximally exposed individual be used in lieu of an annual possession quantity.
[WAC 246-247-040(5), 4/4/1994]

All existing emission units and nonsignificant modifications shall utilize ALARACT.
[WAC 246-247-040(4), 4/4/1994]

The conditional requirements for this standard is set forth in Section 5 conditions 3i and 6.

All new construction and significant modifications of emission units commenced after August 10, 1988 shall utilize BARCT.
[WAC 246-247-040(3), 4/4/1994]

2 APPLICABLE REQUIREMENT TERMS

A Notice of Construction (NOC) is written information submitted under WAC 246-247-060(1) and (2), and provides information listed in WAC 246-247-110 "Appendix A - Application information requirements." This information must include the total effective dose equivalent (TEDE). The equivalent dose is calculated using the source term derived from the COMPLY CODE, or other EPA, or State of Washington, Department of Health (Health) approved method. A Notice of Construction as detailed below is required for proposed construction or modification of an emission unit. An approved NOC with its limits and conditions becomes an applicable requirement to the license.

WAC 246-247-060(1), 4/4/94 requirements for new construction or modification of emission units are as follows:

Early in the design phase, the applicant shall submit a NOC containing the information required in Appendix A of WAC 246-247.

Within thirty days of receipt of the NOC, Health shall inform the applicant if additional information is required. The department may determine, on the basis of the information submitted, that the requirements of BARCT or ALARACT have been met, or may require the applicant to submit a BARCT or ALARACT demonstration compatible with Appendix B or C of WAC 246-247, respectively.

Within sixty days of receipt of all required information, Health shall issue an approval or denial to construct. The department may require changes to the final proposed control technology.

The applicant may request a phased approval process by so stating and submitting a limited application. Health may grant a conditional approval to construct for such activities as would not preclude the construction or installation of any control or monitoring equipment required after review of the completed application.

Health shall issue a license, or amend an existing license, authorizing operation of the emission unit(s) when the proposed new construction or modification is complete. For facilities subject to the air operating permit requirements of chapter 173-401, the license shall become part of the air operating permit issued by the Department of Ecology or a local air pollution control authority. For new construction, this action shall constitute registration of the emission unit(s).

WAC 246-247-060(2), 4/4/94 requirements for modification of unregistered emission units that are not exempt from the regulations are as follows:

The applicant shall submit an application containing the information required in Appendix A of WAC 246-247.

Within thirty days of receipt of the application, Health shall inform the applicant if additional information is required. The department may determine, on the basis of the information submitted, that the requirements of BARCT or ALARACT have been met, or may require the applicant to submit a BARCT or ALARACT demonstration compatible with Appendix B or C of WAC 246-247, respectively.

Within sixty days of receipt of all required information, Health shall issue or amend the license. For facilities subject to the air operating permit requirements of Chapter 173-401, the license shall become part of the air operating permit issued by the Department of Ecology or a local air pollution control authority. This action shall constitute registration of the emission unit(s). A determination of non-compliance may result in the issuance of a Notice of Violation.

Health reserves the right to require the owner of an existing, unregistered emission unit to make modifications necessary to comply with the applicable standards of WAC 246-247-040.

Madigan Army Medical Center shall notify the department of Health at least seven calendar days before any planned pre-operational tests of new or modified emission units that involve emissions control, monitoring, or containment systems of the emission unit(s). The department reserves the right to witness these tests under WAC 246-247-060 (4).

The ALARACT requirement means the use of radionuclide emission control technology that achieves emission levels that are consistent with ALARA. ALARACT compliance is demonstrated by evaluating the existing control system and proposed nonsignificant modification in relation to applicable technology standards and other control technologies operated successfully in similar applications. An ALARACT compliance demonstration is used for inspection or audit purposes, and to demonstrate compliance with the substantive ALARACT technology standard. [WAC 246-247 030(4), 4/4/1994] [WAC 246-247 130(Appendix C), 4/4/1994]

3 Monitoring, Testing, Quality Assurance

Unless otherwise noted, monitoring, testing and quality assurance must be performed under the requirements of WAC 246-247-075, 4/4/1994.

In lieu of monitoring, emissions shall be limited by annual possession quantity specified in Section 5, condition 3 of this License. Annual compliance to the standard shall be determined through COMPLY. [WAC 246-247-085(2), 4/4/94] [WAC 246-247-040(5), 4/4/94]

4 Inspections, Record Keeping and Reporting

Inspections, Reporting and record keeping must be performed under the requirements of WAC 246-247-080, 4/4/1994.

The Madigan Army Hospital shall submit an annual report covering the emissions for a calendar year no later than June 30 of the following year.

A projected annual effective dose equivalent to the Maximally Exposed Individual (MEI) greater than 3 mrem per year shall be reported to the Department within 24 hours.

The Department reserves the right to perform a radionuclide air emissions audit of the facility annually or as deemed necessary. Inspections shall be performed at the Departments discretion.

Applicable emission unit records shall be kept in accordance with section 5 condition 7.

5 Emission Unit Specific license conditions

- 1 Radionuclide emissions from stack L2260 originating in the Nuclear Pharmacy as presented to the Department in an inspection of Madigan Army Medical Center on March 20, 1995 and as submitted in the application dated April 6, 1995 shall strictly adhered to the limits and conditions of this license and the rules and regulations of WAC 246-247.
- 2 All isotopes authorized under Madigan Army Medical Center (MAMC's) Nuclear Regulatory Commission Byproduct Material License, Number 030-3368, shall be authorized to vent to stack L2260. If isotopes other than Iodine 131 are vented, a new comply code will be conducted to ensure compliance to emission standards.
- 3 Inventory of radionuclides shall be limited to the following
 - i. I-131: Possession quantity at any time shall not exceed 300 mCi in any one container.
 - ii. I-131: Annual possession quantity shall not exceed 20 Ci.
 - iii. Xe-133: Annual possession quantity shall not exceed 1 Ci.
 - iv. H-3: Annual possession quantity shall not exceed 5 Ci.
4. The fume hood to stack L2260 must have an average flow velocity of 100 CFM through the port at all times radioisotopes are stored in the fume hood.

5. No exemptions from the standards in WAC 246-247-040 will be granted.
6. As Low As Reasonably Achievable Control Technology (ALARACT), WAC 246-247-130 and Best Available Radionuclide Control Technology (BARCT), WAC 246-247-120, standards as described in the Regulations shall be considered in compliance by using the following control methodology:

MAMC will perform quarterly audits of actual isotopic material used. The annual report shall include a statement that the quarterly audits were performed. The results of these audits will be calculated in COMPLY and included in the annual report.

Any deviation from this technology not otherwise excluded by description in WAC 246-247-030(16), must follow the requirements of section 2 of this license.

7. Records that may help establish compliance with the requirements of this license shall be readily retrievable and be maintained for a period of five years. [WAC 246-247-080(8) 4/4/94]